UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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DICKSTEIN SHAPIRO MORIN & OSHINSKY LLP
2101 L Street, NW
Washington, DC 20037

ART UNIT	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.	Applicant(s)
Office Action Summary	10/085,032	KURODA ET AL.
	Examiner	Art Unit	
	Manav Seth	2624	

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>06 March 2006</u>.
2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-15</u> is/are pending in the application.
    4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5)☐ Claim(s) _____ is/are allowed.
6)☒ Claim(s) <u>1-15</u> is/are rejected.
7)☐ Claim(s) _____ is/are objected to.
8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.
10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a)☐ All   b)☐ Some * c)☐ None of:
      1.☐ Certified copies of the priority documents have been received.
      2.☐ Certified copies of the priority documents have been received in Application No. _____.
      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.
4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.
5)☐ Notice of Informal Patent Application (PTO-152)
6)☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.1 14

1.   A request for continued examination under 37 CFR 1.114, including the fee set forth in 37

CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for

continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1 .17(e) has been timely

paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114.

Applicant's submission filed on March 06, 2006 has been entered.

Response to Amendment

2.   Applicant's amendment under 37 C.F.R. 1.116, filed on February 10, 2006 has been

considered and entered in full.

3.   Applicant's arguments with respect to respective amended claims have been considered but

are not moot in view of the new ground(s) of rejection(s) made below, in view of the further

consideration of the amended claims.

Claim Rejections - 35 USC § 112

4.   The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and
> using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or
> with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by
> the inventor of carrying out his invention.

5.   Claims 1 and 13-15 rejected under 35 U.S.C. 112, first paragraph, as failing to comply with

the written description requirement. The claim(s) contains subject matter which was not described

in the specification in such a way as to reasonably convey to one skilled in the relevant art that the

inventor(s), at the time the application was filed, had possession of the claimed invention.

Claims 1 and 13 recite "storing the optimization candidate data for a **pre-determined**

period". However such a limitation, which says "storing data for a **pre-determined time**"

specifically has not been found in the specification and such a pre-determined time has not been

found in specification. Claims 1 and 13-15 further recites "renewing the registration data when after

said pre-determined period a renewing request has been made by a user". Such a limitation has not

been found in the specification, which recites "after said pre-determined period a renewing request

has been made by a user". The specification in 4th paragraph of page 15 rather recites "A prescribed

number of data are held in the optimization candidate file 36, and the optimization candidate data

file 36 is created to be renewed at all times at the renewal requesting time when the collation

manager wishes to new the registration data". Clearly the specification only says "that such data file

is created to be renewed at all times" and there is no mentioning of this specific pre-determined

period after which any action is taken. Further, the specification shows the renewing request is made

by collation manager rather than by the user. Therefore, examiner assumes the pre-determined

period according to the specification means the memory delay where the data is stored, as the

memory provides a predetermined storage period.

Claim Rejections - 35 USC § 103

6.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness

rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section
> 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the
> subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary

skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7.   Claims 1, 6/1, 7, 8, 10/1, 11/1, 12/1, 13, 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamaguchi et al., U.S. Patent No. 6,608,914 in view of Lu et al., U.S. Patent No. 5,550,928.

Regarding **claim 1**, Yamaguchi discloses:

- a TV camera (a living body information imaging means) to detect the human face (living body information) (column 4, lines 54-57, column 5, lines 22-23).

- a registration information holding section, 18, (a registration data storage means) for storing a registration data (figure 1, column 6, lines 15-16 and lines 63-65).

- A recognition section, 16, (an identifying means) for identifying the living body information by comparing the living body information achieved with the registration data stored in registration information holding section, 18, (column 6, lines 19-25).

- A registered information updating section, 20, (an optimization candidate data extracting means) which outputs data using instructions (extracting optimization candidate data) for data renewal (column 7, lines 20-22 and 36-39; column 8, lines 4-11) where plurality of different data is extracted.

Yamaguchi does teach extracting multiple or plurality of data but Yamaguchi does not teach the step of storing (or accumulating) the data extracted by registered information updating section, 20, (optimization candidate data extracting means) in the memory (optimization candidate data storage means) for a predetermined period and then sending this data for data renewal. It is an inherent fact that a memory is nothing but a circuit that holds the data and thus providing a delay

between input and output ports of the circuit and a memory designer does design the memory according to the delay desired, therefore inherently such a delay (accumulation or storage) time for which memory stores a data is predetermined. However, Lu discloses a processing unit 216 which compares the parameters calculated by block 204 to the reference parameters, which are stored in the Eigenface parameter library file 202, relating to each of the known viewers, and determines the scores between the parameters of the face in the current image and the parameters of each of the known viewers and these scores are further sent to block 208 which stores these scores in an Eigenface recognition file 210 (column 16, lines 48-58).

Therefore, it would have been obvious for one skilled in the art at the time of the invention was made to use the method of Lu of storing data extracted by a processing unit into a memory storage unit by in the invention of Yamaguchi. One would have been motivated to use the method of Lu of storing data extracted by a processing unit into a memory storage unit in the invention of Yamaguchi because both references are directed towards biometric identification process and system and Lu further provides the well-known concept of storing the extracted data into a memory so that the data stored can be routed to other processing elements of the system for further processing as required and will provide a better accessibility and data synchronization during data transfer to other units of the system.

Yamaguchi further discloses a registration information holding section, 18, (a renewal storage means) for storing the newly renewed plural data and it is clear that if a update or renewal is done to replace the old data, it makes it obvious that the new data to be stored will have higher priority than the old registration data and this is the basic purpose of renewing the old data. Yamaguchi further discloses that "if no recognition has been made for a longer time period, the update method for recognition method is decided" (col. 8, lines 30-40), thus older data stands no priority and all the

higher priority goes to the renewed data (or new stored data). Yamaguchi also further provides a graph in figure 2, which shows that in case of a living body information, the similarity degree lowers as the number of days are elapsed. The data entry only once is not sufficient for conducting accurate authentication, thus renewed data with respect to time achieves a higher priority than the older data. The claim further recites "renewing the registration data when after said pre-determined period a renewing request has been made by the user". The combined invention of Yamaguchi and Lu provides accumulating the extracted data in optimization candidate data storage which would further provide better accessibility and data synchronization during data transfer to other units and it being clear that if data is not available at the memory output(or optimization candidate data storage), the renewing request cannot be made by the user, therefore renewing request has to be made after the data is available at the memory output after a predetermined period or delay of the memory.

Claim 6/1 recites "wherein the registration data comprises attribute information, wherein the renewal by said renewal storage means is carried out by using the attribute information". Yamaguchi further discloses of storing subspaces (attribute information) in the registered information holding section, 18 whereas attribution information can contain information such as registration, time, day, hour, presence or absence of eyeglasses (column 7, lines 24-28 and lines 45-49). Yamaguchi further discloses the use of attribution information in recognition (figure 6(a), column 7, lines 40-43 and lines 56-57) and further uses this information for renewal (column 8, lines 24-26).

Claim 7 had been analyzed and rejected as per claim 6.

Claim 8 recites "wherein the attribute information comprises: a flag indicating a presence or absence of glasses". The method of identification here is performed by an system, not by a human and as well known, every software program uses flags to indicate the selection or non selection, presence or absence of an attribute information. The same is done by Yamaguchi as to set a flag for parameter to **long term** when no recognition has been made for a long time period or otherwise a flag is set to short term (col. 8, lines 24-35). Therefore, it would have been obvious for one of ordinary skill in the art at the time of invention was made to use a flag indicating a presence or absence of glasses as the method is being performed by an device and it being a common practice of using flags to define the attribute conditions.

Claim 10/1 recites "wherein said optimization candidate data extracting means extracts the optimization candidate data for each living body identification". Yamaguchi discloses the registered information updating section, 20, performs an update on the registered information in the registered information holding section, 18, **as required**. Yamaguchi further discloses that the registered information update section, 20, is further divided into two subsections, update determining section 201 for determining an update method and condition, and a update information creating section 202 for updating the registered information according to the determined method and condition (column 8, lines 6-11). Yamaguchi further discloses that section 201 receives collation results from the recognition section, 16, (collating means) (column 8, lines 16-18) and then extracts update (renewal) parameters **as required** based on the lapse time (column 8, lines 4-6, lines 19-40). It is clear from above that every time the living body identification is carried out, the results are passed to update section 20, which then extracts parameters or data as required for further processing.

Claim 11/1 recites "wherein said optimization candidate data extracting means extracts image data having a low degree of identification reliability". Yamaguchi discloses extracting of image data having a low degree of identification reliability degree in figure 10 where images are extracted from region B where region B is the region of low degree of identification reliability because part of the region B is above a threshold value and rest of the part is below the threshold value, which provides a higher probability of mistakenly recognizing the images in this region B and this can be further seen in column 8, lines 53-58.

Claim 12/1 recites "wherein said optimization candidate data extracting means extracts image data corresponding to a failure of identification". Again referring to figure 10, Yamaguchi discloses extracting of image data from region C where images have a similarity value closer to zero.

Claim 13 recites a living body identifying system that is equipped with optimization candidate data storage means and a renewal storage means. Yamaguchi's invention combined with Lu's invention provides the device recited in as in the rejection of claim 1. Further Yamaguchi discloses that such a device structure is feasible by using a personal computer (a center device) with a frame grabber connected with TV camera (column 4, lines 54-67). Examples of such a system can be referred to as ATM machine, an airport security system etc. Claim 13 has been similarly analyzed and rejected as per claim 1.

Claims 14 and 15 recites the method to be performed on the device recited in claim 1. Claims 14 and 15 had been analyzed and rejected as per claim 1.

8.   Claims 4/1 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamaguchi

et al., U.S. Patent No. 6,608,914 in view of Lu et al., U.S. Patent No. 5,550,928 and further in view

of Usui et al., U.S. Patent No. 5,210,797.

Claim 4/1 recites "further comprising: an error rate calculating means for calculating an

error rate of collation data, and registration data renewal target person extracting means for

extracting registration data necessary to be renewed on the basis of the error rate calculated by said

error rate calculating means". As explained before in the rejection of claims 10, 11 and 12,

Yamaguchi extracts the renewal data using updating section, 20, on the basis of the error rate of

collation data, but does not explicitly teach of computing an error rate of collation data by error rate

calculating means, neither does Lu teach of the same.

However, Usui discloses a method and apparatus for fingerprint recognition which

computes the rate of correspondence (rate of correspondence will itself detect rate of error) between

the segments of the fingerprint pattern stored in the memory and the segments of said fingerprint

scanned by the scanner and then bases on this correspondence rate renews the fingerprint patterns

stored in the memory with the fingerprints received (Abstract; column 2, lines 28-35; column 3, lines

15-22).

Therefore, it would have been obvious for one skilled in the art at the time of the invention

was made to include the error rate calculating means by Usui in the combined invention of

Yamaguchi and Lu. One would have been motivated to include the error rate calculating means by

Usui in the combined invention of Yamaguchi and Lu because all three references are directed to

the biometric information extraction and renewal and Usui will further provide the method of

determining which data or image is to be renewed in the registered information holding section and

Yamaguchi will further extract data necessary to be renewed using registered information update

section, 20, on the basis of the error rate calculated and this will make the processing fast as the section 20 will know beforehand which data or image is to be renewed.

Claim 5 recites "wherein said error rate calculating means comprises: a circuit for maintaining: a first threshold value used for identification and a second threshold value set to be lower than the first threshold value, and an error value, wherein said error value is not more than the second threshold value". First of all if the system performs the method, it is obvious that a circuit is required on which the software is running such as a processor. As explained in the rejection of claim 11 and 12, Yamaguchi does teach of extracting image or data from regions A, B and C where it uses a higher threshold value in figure 10 but does not teach of using lower threshold value, neither does Usui teach anything of using the same.

However, Lu discloses of method of recognizing face by calculating the score of each face image stored in the database to provide a quantitative estimate of the likelihood to that of the input image. These scores for each of the image in the database are compared to threshold values T(high) and T(low) where T(low) threshold value is set to be lower than the T(high) threshold value. If the score is above T(high), it will be stored as an indication of the confidence that the viewer or person has been identified. If the score is between the T(high) and T(low), the person will still be identified using some other features and it is clear that if the score was lower than T(low), representing an error value, the image will not be considered and person is not identified, (see column 18, lines 25-51).

Therefore, it would have been obvious for one skilled in the art at the time of invention was made to use the concept of using two threshold values by Lu in the combined invention of Yamaguchi and Usui. One would have been motivated to use the concept of Lu in the combined

invention of Yamaguchi and Usui because all the references are directed towards biometric

parameter recognition and using the lower threshold value would allow Yamaguchi not to extract

the data that is below lower threshold value which is close to the similarity value of zero, and thus

making the process faster.

9.   Claim 9/1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yamaguchi et al.,

U.S. Patent No. 6,608,914 in view of Lu et al., U.S. Patent No. 5,550,928 and further in view of

Coffin et al., U.S. Patent No. 5,991,429.

Claim 9/1 recites "wherein the registration data has predetermined number of image data,

and said renewal storage means renews a prescribed number of image data from the predetermined

number of image data". It is well known in the art that if a person is to be identified, his/her

features has to be registered beforehand in the database and the number of features stored has to

have some limit i.e. a predetermined number of features are registered as registration data in the

database. Both Yamaguchi and Lu does not explicitly say having a "predetermined number" of

features but to further support this well known art, Coffin discloses that a minimum

(predetermined) number of images is required for comparison in identification purposes (column 8,

lines 62-67)

Therefore, it would have been obvious for one skilled in the art at the time of invention to

use the concept of Coffin of having minimum (predetermined) number of images for comparison in

the combined invention of Yamaguchi and Lu. One would have been motivated to use the concept

of Coffin of having minimum (predetermined) number of images for comparison in the combined

invention of Yamaguchi and Lu because having minimum number of images would provide the

desired identification accuracy providing a better comparison with better recognition.

10.   Claims 2, 6/2, 7, 8, 10/2, 11/2, and 12/2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamaguchi et al., U.S. Patent No. 6,608,914 in view of Lu et al., U.S. Patent No. 5,550,928 and further in view of Igaki et al., Japanese Patent No. JP404320583A.

Claim 2 additionally recites the limitations "said identifying means further comprises: a registration data renewal target person output means for outputting registration data to be renewed in accordance with the frequency of identification failure of said identifying means". Yamaguchi does teach of using the attribute information for the recognition and renewal purposes but both Lu and Yamaguchi does not teach a registration data renewal target person output means for outputting registration data to be renewed in accordance with the frequency of identification failure of said identifying means. However, Igaki provides a method of updating registered data where when the **number of defective feature points** (frequency of identification failures) exceeds a previously determined threshold, the necessity of updating is judged (abstract).

Therefore, it would have been obvious for one skilled in the art at the time the invention was made to include the registration data renewal means that use the concept of updating registration data by Igaki in the combined invention of Yamaguchi and Lu. One would have been motivated to include the registration data renewal means that use the concept of updating registration data by Igaki in the combined invention of Yamaguchi and Lu because combined invention of Yamaguchi and Lu and Igaki are directed to data recognition and renewal and Igaki further provides the concept of renewal of registered data by using attribute information such as frequency of identification failure. Yamaguchi as explained before uses attribute information for renewal and using attribute information in the identification and renewal purpose is well known in the art.

Claim 6/2 has been analyzed and rejected as per claim rejection of 6, which is dependent on claim 1.

Claim 7 has been analyzed and rejected as per claim rejection of 7 which is dependent on claim 1.

Claim 8 has been analyzed and rejected as per claim rejection of 8 which is dependent on claim 1.

Claim 10/2 has been analyzed and rejected as per claim rejection of 10 which is dependent on claim 1.

Claim 11/2 has been analyzed and rejected as per claim rejection of 11 which is dependent on claim 1.

Claim 12/2 has been analyzed and rejected as per claim rejection of 12 which is dependent on claim 1.

11.   Claim 4/2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yamaguchi et al., U.S. Patent No. 6,608,914 in view of Lu et al., U.S. Patent No. 5,550,928 and further in view of Igaki et al., Japanese Patent No. JP404320583A, and further in view of Usui et al., U.S. Patent No. 5,210,797.

Claim 4/2 recites "further including error rate calculating means for calculating an error rate of collation data, and registration data renewal target person extracting means for extracting registration data necessary to be renewed on the basis of the error rate calculated by said error rate calculating means". As explained before in the rejection of claims 10, 11 and 12, Yamaguchi extracts the renewal data using updating section, 20, on the basis of the error rate of collation data, but does not explicitly teach of computing an error rate of collation data by error rate calculating means, neither does Igaki and Lu teach of the same.

However, Usui discloses a method and apparatus for fingerprint recognition which computes the rate of correspondence (rate of correspondence will itself detect rate of error) between the segments of the fingerprint pattern stored in the memory and the segments of said fingerprint scanned by the scanner and then bases on this correspondence rate renews the fingerprint patterns stored in the memory with the fingerprints received (Abstract; column 2, lines 28-35; column 3, lines 15-22).

Therefore, it would have been obvious for one skilled in the art at the time of the invention was made to include the error rate calculating means by Usui in the combined invention of Yamaguchi, Lu and Igaki. One would have been motivated to include the error rate calculating means by Usui in the combined invention of Yamaguchi, Lu and Igaki because all references are directed to the biometric information extraction and renewal and Usui will further provide the method of determining which data or image is to be renewed in the registered information holding section and Yamaguchi will further extract data necessary to be renewed using registered information update section, 20, on the basis of the error rate calculated and this will make the processing fast as the section 20 will know beforehand which data or image is to be renewed.

Claim 5/4/2 recites "wherein said error rate calculating means has a first threshold value

used for a collation and a second threshold value set to be lower than the first threshold value, and

an error whose error rate is not more than the second threshold value is not used for calculation of

the error rate". As explained in the rejection of claim 11 and 12, Yamaguchi does teach of extracting

image or data from regions A, B and C where it uses a higher threshold value in figure 10 but does

not teach of using lower threshold value, neither does Igaki and Usui teach anything of using the

same.

However, Lu discloses of method of recognizing face by calculating the score of each face

image stored in the database to provide a quantitative estimate of the likelihood to that of the input

image. These scores for each of the image in the database are compared to threshold values T(high)

and T(low) where T(low) threshold value is set to be lower than the T(high) threshold value. If the

score is above T(high), it will be stored as an indication of the confidence that the viewer or person

has been identified. If the score is between the T(high) and T(low), the person will still be identified

using some other features and it is clear that if the score was lower than T(low), representing the

error value, the image will not be considered and person is not identified (see column 18, lines 25-

51).

12.   Claim 9/2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yamaguchi et al.,

U.S. Patent No. 6,608,914 in view of Lu et al., U.S. Patent No. 5,550,928 and further in view of Igaki

et al., Japanese Patent No. JP404320583A, and further in view of Coffin et al., U.S. Patent No.

5,991,429.

Claim 9/2 recites "wherein the registration data has predetermined number of image data,

and said renewal storage means renews a prescribed number of image data from the predetermined

number of image data". It is well known in the art that if a person is to be identified, his/her features has to be registered beforehand in the database and the number of features stored has to have some limit i.e. a predetermined number of features are registered as registration data in the database. Yamaguchi, Lu and Igaki does not clearly say of having a predetermined number of features but to further support this well known art, Coffin discloses that a minimum (predetermined) number of images is required for comparison in identification purposes (column 8, lines 62-67).

Therefore, it would have been obvious for one skilled in the art at the time of invention to use the concept of Coffin of having minimum (predetermined) number of images for comparison in the combined invention of Yamaguchi, Lu and Igaki. One would have been motivated to use the concept of Coffin of having minimum (predetermined) number of images for comparison in the combined invention of Yamaguchi, Lu and Igaki because having minimum number of images would provide the desired identification accuracy providing a better comparison with better recognition.

13.   Claims 3, 6/3, 7, 8, 10/3, 11/3, and 12/3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamaguchi et al., U.S. Patent No. 6,608,914 in view of Lu et al., U.S. Patent No. 5,550,928in view of Price-Francis, U.S. Patent No. 5,815,252.

Claim 3 additionally recites "a registration candidate data storage means for storing registration candidate unused for collation". Yamaguchi and Lu do not teach of storing registration candidate unused for collation. However Price-Francis discloses storing of user (candidate) additional biometric data representing a different physical characteristic in the storage medium

whereas one of the physical characteristics is extracted from the storage medium for identification and rest of them are unused (column 3, lines 34-43).

Therefore, it would have been obvious for the person skilled in the art at the time of the invention was made to use the method of storing additional registered by Price-Francis in the combined invention of Yamaguchi and Lu. One would have been motivated to use the method of storing additional registered by Price-Francis in the combined invention of Yamaguchi and Lu because all references are directed to biometric data extraction for identification purposes and Price-Francis provides a method where additional biometric feature characteristics are stored in the storage medium which provides the more reliability for the identification systems and these additional biometric features are unused if the identification is done by the selected particular biometric feature characteristic.

Claim 6/3 has been analyzed and rejected as per claim rejection of 6 which is dependent on claim 1.

Claim 7 has been analyzed and rejected as per claim rejection of 7 which is dependent on claim 1.

Claim 8 has been analyzed and rejected as per claim rejection of 8 which is dependent on claim 1.

Claim 10/3 has been analyzed and rejected as per claim rejection of 10 which is dependent on claim 1.

Claim 11/3 has been analyzed and rejected as per claim rejection of 11 which is dependent

on claim 1.

Claim 12/3 has been analyzed and rejected as per claim rejection of 12 which is dependent

on claim 1.

14.   Claim 4/3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yamaguchi et al.,

U.S. Patent No. 6,608,914 in view of Lu et al., U.S. Patent No. 5,550,928 and further in view of

Price-Francis, U.S. Patent No. 5,815,252, and further in view of Usui et al., U.S. Patent No.

5,210,797.

Claim 4/3 recites "further including error rate calculating means for calculating an error rate

of collation data, and registration data renewal target person extracting means for extracting

registration data necessary to be renewed on the basis of the error rate calculated by said error rate

calculating means". As explained before in the rejection of claims 10, 11 and 12, Yamaguchi extracts

the renewal data using updating section, 20, on the basis of the error rate of collation data, but does

not explicitly teach of computing an error rate of collation data by error rate calculating means,

neither does Price-Francis teach of the same.

However, Usui discloses a method and apparatus for fingerprint recognition which

computes the rate of correspondence (rate of correspondence will itself detect rate of error) between

the segments of the fingerprint pattern stored in the memory and the segments of said fingerprint

scanned by the scanner and then bases on this correspondence rate renews the fingerprint patterns

stored in the memory with the fingerprints received (Abstract; column 2, lines 28-35; column 3, lines 15-22).

Therefore, it would have been obvious for one skilled in the art at the time of the invention was made to include the error rate calculating means by Usui in the combined invention of Yamaguchi, Lu and Price-Francis. One would have been motivated to include the error rate calculating means by Usui in the combined invention of Yamaguchi, Lu and Price-Francis because all references are directed to the biometric information extraction and renewal and Usui will further provide the method of determining which data or image is to be renewed in the registered information holding section and Yamaguchi will further extract data necessary to be renewed using registered information update section, 20, on the basis of the error rate calculated and this will make the processing fast as the section 20 will know beforehand which data or image is to be renewed.

Claim 5/4/3 recites "wherein said error rate calculating means has a first threshold value used for a collation and a second threshold value set to be lower than the first threshold value, and an error whose error rate is not more than the second threshold value is not used for calculation of the error rate". As explained in the rejection of claim 11 and 12, Yamaguchi does teach of extracting image or data from regions A, B and C where it uses a higher threshold value in figure 10 but does not teach of using lower threshold value, neither does Price-Francis and Usui teach anything of using the same.

However, Lu discloses of method of recognizing face by calculating the score of each face image stored in the database to provide a quantitative estimate of the likelihood to that of the input image. These scores for each of the image in the database are compared to threshold values T(high) and T(low) where T(low) threshold value is set to be lower than the T(high) threshold value. If the

score is above T(high), it will be stored as an indication of the confidence that the viewer or person

has been identified. If the score is between the T(high) and T(low), the person will still be identified

using some other features and it is obvious that if the score was lower than T(low), the image will

not be considered and person is not identified (see column 18, lines 25-51).

15.   Claim 9/3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yamaguchi et al.,

U.S. Patent No. 6,608,914 in view of Lu et al., U.S. Patent No. 5,550,928 and further in view of

Price-Francis, U.S. Patent No. 5,815,252, and further in view of Coffin et al., U.S. Patent No.

5,991,429.

Claim 9/3 recites "wherein the registration data has predetermined number of image data,

and said renewal storage means renews a prescribed number of image data from the predetermined

number of image data". It is well known in the art that if a person is to be identified, his/her

features has to be registered beforehand in the database and the number of features stored has to

have some limit i.e. a predetermined number of features are registered as registration data in the

database. Yamaguchi, Lu and Price-Francis does not clearly say of having a predetermined number

of features but to further support this well known art, Coffin discloses that a minimum

(predetermined) number of images is required for comparison in identification purposes. (column 8,

lines 62-67).

Therefore, it would have been obvious for one skilled in the art at the time of invention to

use the concept of Coffin of having minimum (predetermined) number of images for comparison in

the combined invention of Yamaguchi, Lu and Price-Francis. One would have been motivated to

use the concept of Coffin of having minimum (predetermined) number of images for comparison in

the combined invention of Yamaguchi, Lu and Price-Francis because having minimum number of

images would provide the desired identification accuracy providing a better comparison with better recognition.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Manav Seth whose telephone number is (571) 272-7456. The examiner can normally be reached on Monday to Friday from 8:30 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bhavesh Mehta, can be reached on (571) 272-7453. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Manav Seth
Art Unit 2624
April 23, 2006

BHAVESH M. MEHTA
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600